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MILITARY SPECIFICATION

TRAILER, PLATFORM, WAREHOUSE, WOOD OR METAL PLATFORM, 6000 POUND CAPACITY, PNEUMATIC TIRES, FIFTH WHEEL STEER

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements for 6000 pound capacity, fifth-wheel steer type, wood or metal platform warehouse trailers with or without racks and fork pockets.

1.2 Classification. Platform warehouse trailers shall be of the following types and classes as specified (see 6.2 and 6.3):

Type I - Platform warehouse trailer without racks.
  Class A - Wood platform
  Class B - Metal platform
Type II - Platform warehouse trailer with racks.
  Class A - Wood platform
  Class B - Metal platform

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal form a part of this specification to the extent specified herein:

FSC 3920

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Mobility Equipment Research and Development Command, ATTN: DRDME-DS, Fort Belvoir, VA 22060 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

SPECIFICATIONS

FEDERAL

QQ-S-781	- Strapping, Steel, and Seals.
ZZ-I-550	- Inner Tube, Pneumatic Tire.
ZZ-T-410	- Tire, Pneumatic, Industrial.
PPP-B-601	- Boxes, Wood, Cleated-Plywood.
PPP-C-650	- Crates, Wood, Open and Covered.
PPP-P-40	- Packaging and Packing of Hand Tools.

MILITARY

MIL-P-116	- Preservation-Packaging, Methods of.
MIL-W-8005	- Wheels and Hubs, for Industrial Pneumatic Tires.

STANDARDS

FEDERAL

FED. STD. No. 595	- Colors.

MILITARY

MIL-STD-105	- Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129	- Marking for Shipment and Storage.
MIL-STD-130	- Identification Marking of US Military Property.
MIL-STD-1363	- Measurement of Wood Moisture Content.
MS51335	- Pintle Assembly, Towing, 18,000 Lbs. Capacity, Manual Release.
MS51336	- Lunette - Coupler, Drawbar, Ring.

(Copies of specifications and standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

INDUSTRIAL FASTENERS INSTITUTE

Standard 114 - Standard for Break Mandrel Blind Rivets.

(Application for copies should be addressed to Industrial Fasteners Institute, 1517 Terminal Tower, Cleveland, OH 44113).

NATIONAL BUREAU OF STANDARDS

Handbook H28 - Screw-Thread Standards for Federal Services.

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, DC 20402.)

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, ATTN: Tariff Publishing Officer, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Associations, Inc., ATTN: Traffic Department, 1616 P Street, NW, Washington, DC 20036.)

DEPARTMENT OF TRANSPORTATION (DOT)

Motor Carrier Safety Regulations.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE Handbook.

(Applications for copies should be addressed to the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096.)

3. REQUIREMENTS

3.1 Description. The warehouse platform trailer (hereinafter called "trailer") shall consist of a wood or metal platform, pneumatic tires; automatic couplers or lunette and pintle hook; fifth-wheel steer and with or without racks and fork pockets as specified (see 1.2 and 3.4.8.2).

3.2 First article.

3.2.1 Preproduction model. The contractor shall furnish three trailers for examination and testing within the time frame specified (see 6.2), to prove prior to starting production that his production methods and choice of design detail will produce trailers that comply with the requirements of this specification. Examination and tests shall be as specified in Section 4; and, unless otherwise specified herein, all examination and tests shall be conducted by the contractor subject to surveillance and approval by the Government (see 6.3). When specified, the Government will conduct any or all of the preproduction examination and tests, as specified (see 6.2).

3.3 Material. Material shall be as specified herein. Material not specified shall be selected by the contractor and shall be subject to all provisions of this specification (see 6.7).

3.3.1 Lumber. Lumber shall be selected hardwood of any of the following species: Ash, Beech, Birch, Elm, Hackberry, Hickory, hard Maple or Oak. Lumber shall have a rough texture.

3.3.1.1 Moisture content. At time of fabrication of the wood platform, boards shall be of well-seasoned lumber as specified in 3.3.1. The moisture content of boards shall be not less than 12 percent nor more than 18 percent when tested as specified in 4.3.1.

3.3.1.2 Quality. Lumber shall be free from warp, decay, shakes, splits and wane, except for the following scattered defects: Sound, tight knots with a maximum diameter not exceeding one-third the width of the finished board; checks not more than 4 inches long; and holes not more than 1/2-inch diameter.

3.4 Construction. Completely assembled trailers shall conform to the physical characteristics listed in Table I and as specified herein.

Table I. Physical characteristics

Rated load	6000 pounds
Platform length	108 inch min; 112 inch max.
Platform width	45 inch min; 48 inch max.
Centerline pintle-hook height above ground	12 inches; ± 1/2
Drawbar pivot-height above ground	12 inches; ± 1/2
Overall length (drawbar extended)	158 inches max.

3.4.1 Frame. The frame and reinforcing members shall be fabricated from structural steel shapes and shall be of welded construction. The frame shall be rounded at the corners.

3.4.2 Platforms.

3.4.2.1 Platform (Class A). The boards shall be placed perpendicular to the longitudinal axis of the trailer. The board widths shall be 3 inches minimum and 6 inches maximum. The board finished thickness shall be not less than 1-1/8 inches. The thickness of the boards on any one platform shall not vary from each other by more than 1/4 inch. The spacing between each board and between the end boards and the end of the trailer shall not be less than 1/16 inch and not more than 3/16 inch. The ends of the boards shall fit inside the frame with the top surface of the boards flush or lower than the top of the frame. Where required, boards shall be cut and shaped to accomodate frame corners (see 3.4.1). The boards shall be held to the frame with steel holddown bars by means of bolts, lockwashers and nuts or bolts and self-locking nuts. The holddown bars shall be flush with the frame and extend the full length of the trailer and shall be rounded at the ends to match the curvature of the frame, one on each side of the trailer at the ends of the boards. Bolthole center spacing shall be not more than 12 inches apart. The platform, holddown bars, and fasteners shall have the strength to withstand, without damage, the rated payload distributed over its entire surface with trailer operating under mobile conditions specified herein.

3.4.2.2 Platform (Class B). The platform shall be of all metal construction. The platform and fasteners shall have the strength to withstand, without damage, the rated payload distributed over its entire surface with trailer operating under mobile conditions specified herein.

3.4.3 Fifth wheel. The fifth wheel shall be of steel construction and shall consist of an upper plate and lower plate. The upper plate shall be rigidly joined to the underside of the trailer frame. The lower plate shall be assembled to the upper plate by means of the kingpin and castellated nut. The lower plate shall be made to rotate about the vertical kingpin axis a full 360 degrees in either direction. The fifth-wheel assembly shall be provided with a grease reservoir, grease retainers, and an accessible pressure type grease fitting. The distance between the vertical axis of the kingpin and front face of the frame shall be between 20-21 inches.

3.4.4 Running gear. The running gear for each trailer shall consist of four wheel assemblies, each assembly made up of the components as specified in 3.4.5.1, 3.4.5.2 and 3.4.5.3. The load on the wheels when the trailer is fully assembled shall be such that with rated load equally distributed on platform the load on the front and rear wheels shall not vary by more than 400 pounds. Wheel assemblies shall be mounted so that the tire tube air valves are accessible from outside of the trailer. Wheels shall clear any part of the trailer structure by at least 3/4 inch when the trailer is subjected to a load equal to 200 percent of rated load.

3.4.4.1 Reflectors. Trailers shall be provided with reflectors in accordance with DOT Motor Carrier Safety Regulation 293.15 and 293.26.

3.4.5 Wheel assemblies.

3.4.5.1 Wheels and hubs. The wheels and hubs shall conform to size 6.00-9 as specified in MIL-W-8005. The hubs shall be cantilever mounting type.

3.4.5.2 Axles. The axles shall be cantilever type or through (solid) axle type. The axle spindles shall conform to size 6.00-9 in accordance with MIL-W-8005. The overall end-to-end length of the cantilever type axle shall be not less than 13 inches, and the nominal diameter of the stub shank shall be not less than 1-1/2 inches. When the through axle type is used, the nominal diameter of the axle, except for spindles, shall be not less than 1-3/4 inches.

3.4.5.3 Tires and tubes. Tires shall be industrial type conforming to size 6.00-9 in accordance with ZZ-T-410, tube or tubeless. Tires shall have a 10-ply rating. Tubes when used shall conform to ZZ-I-550.

3.4.6 Fastening devices. All nuts, bolts, pins, and similar parts shall be installed to prevent them from loosening or becoming out of adjustment. All fastening devices subject to removal or adjustment shall not be swaged, peened, staked, or otherwise permanently deformed.

3.4.6.1 Threads. Threads of threaded fasteners shall conform to the applicable requirements of Handbook H28.

3.4.7 Type I.

3.4.7.1 Couplers. The front coupler shall consist of a counterbalance coupler loop with an inside radius of 4 inches plus or minus 1/2 inch and a cross sectional diameter of 15/16 inch to 1 inch and an accompanying coupler loop bumper. The rear coupler shall consist of a coupler jaw configuration with a minimum throat opening of 1-3/4 inches and a minimum throat length of 5-3/4 inches and an accompanying spring loaded latch and pin. Coupler design shall be such that when the loop and jaw ends of the couplers on separate trailers are engaged, they cannot separate under operating conditions when tested as specified in 4.6.2.5 and 4.6.2.6 but shall be capable of being disengaged by a foot operated release. Couplers shall be capable of angular connection in not less than 30 degrees of arc in either direction from the longitudinal axis of the lead trailer when measured in a horizontal plane. Each coupler and its mounting shall be capable of withstanding, without failure or permanent deformation, a horizontal static force in either direction parallel to the longitudinal centerline of the trailer of not less than 1/5 times the gross weight. The gross weight shall be the weight of the trailer plus the rated load for the trailer.

3.4.7.1.1 Mounting, front coupler. The front coupler shall be rigidly joined to the front end of the towing tongue. The towing tongue shall be integral to and perpendicular with the front axle and shall lay fixed in a horizontal plane. The assembled height of the front coupler (i.e., the horizontal plane passing through the center of the coupler) above the floor surface shall be 12 inches plus or minus 1/2 inch. The front end of the towing tongue shall extend at least 6-1/2 inches beyond the front end of the trailer.

3.4.7.1.2 Mounting, rear coupler. The rear coupler shall be rigidly joined to a mounting plate. The mounting plate shall be welded to the rear face of the frame and shall be braced by reinforcing members. The mounting plate shall be parallel with the rear face of the frame. The assembled height of the rear coupler (i.e., the horizontal plane passing through the center of the coupler) above the floor surface shall be 12 inches plus or minus 1/2 inch.

3.4.8 Type II.

3.4.8.1 Racks (Class A). A removable rack section shall be provided at front and rear of the body; two removable rack sections shall be furnished on each side. Each rack section shall be equipped with interlocking hardware; front and rear section(s) shall be provided with positive locking

devices to fasten racks to body. The upright posts shall be hardwood with steel bound pocket ends having a base cross-sectional dimension of not less than 1-1/2 by 2-1/2 inches. Rack height shall be 24 inch minimum. Rack slats shall be the contractor's standard; shall be not less than 3/4 inch thick, not less than 3 inches wide, and shall be evenly spaced. The total of slat widths shall be not less than 60 percent of the rack height.

3.4.8.1.1 Racks (Class B). Racks shall be the same as Class A except that the upright posts will be of 2-inch by 1-inch metal channel construction.

3.4.8.2 Forklift pockets. Unless otherwise specified (see 6.2), trailers shall have boxed type pockets for forklift operations which shall be installed on each side of the trailer to facilitate hoisting the trailer for aircraft loading and unloading purposes. The centerline of each pocket shall be approximately 18 inches each side of transverse centerline of the trailer. Pocket openings shall have a cross-sectional dimension of 10-3/4 inches in width by 4-1/8 inches in height, with a tolerance of plus or minus 1/8 inch. Depth of the pockets shall be approximately 1 foot.

3.4.8.3 Pintle hook. A pintle conforming to MS51335-2 shall be furnished. Mounting shall include reinforcement to transfer pintle loads directly to the trailer frame. The rearmost portion of the installed pintle shall be not more than 4 inches forward of the rearmost part of the trailer. The centerline of the pintle opening shall be 12 plus or minus 1/2 inch above the ground.

3.4.8.4 Drawbar. The drawbar shall be "A" frame type, all steel construction provided with a lunette conforming to MS51336. The drawbar length to the center of the lunette shall be 50 inches minimum.

3.5 Performance.

3.5.1 Overload. The trailer shall be capable of supporting 200 percent of rated load evenly distributed over the platform without evidence of permanent distortion.

3.5.2 Trailing ability. When coupled to the towing vehicle and operating in its minimum turning circle, the trailer shall follow without cramping or side slipping.

3.5.2.1 Turning ability. Trailer front undercarriage and tow hitch shall be capable of assuring a cramping angle of 90 degrees with the longitudinal centerline of the trailer without side-slipping or upsetting of the trailer and without interference between the front undercarriage and the trailer.

3.5.2.2 Towing speed and tracking ability. The trailers shall be capable of being towed at speeds of 15 mph over improved roads. The trailer shall not exceed the allowance for tracking deviation specified in DOT Motor Carrier Safety Regulation 293.70 (e). Additionally, the fully equipped and loaded trailer shall be capable of being towed, as a train of three trailers, at speeds of 15 mph over improved roads.

3.5.3 Rolling resistance. The trailers, when tested as specified in 4.6.2.3, shall require a maximum towing force not greater than 2 percent of the gross weight. Gross weight shall include the rated load and trailer weight.

3.5.4 Operational ability. The trailers when coupled into a train of three trailers and tested as specified in 4.6.2.5, with rated load and at an average speed of 3 miles per hour (mph) over a course consisting of 9-foot aisles intersecting with 10-foot aisles, ramps of 15 percent slope and a series of obstacles, shall travel without interference of the aisles and without whipping or binding while withstanding turning, quick starting and stopping. The trailers shall show no cracks, fractures or permanent deformation of any part. During ascending or descending the ramps, no part of the trailers except wheels shall touch the operating surface, and the wheels shall not be lifted from the operating surface.

3.6 Maintainability. All major assemblies and installed attachments shall be accessible for maintenance, repair, and replacement without the removal of other major assemblies and installed attachments not normally removed. Covers or plates which must be removed for component adjustment, repair, replacement, or maintenance shall be equipped with quick-disconnect fastenings. Drain outlet shall be located for accessibility. Provisions shall be made to permit the use of receptacles for collecting drainage.

3.7 Lubrication. All surfaces requiring lubrication shall be provided with a means for lubricating and shall be lubricated prior to delivery.

3.7.1 Lubricants. The trailer shall operate as specified herein when lubricated with military lubricants (see 6.4).

3.8 Identification marking. The trailer shall be identified and marked in accordance with MIL-STD-130 and shall include the contractor's name or trademark and part number.

3.9 Treatment and painting. All exterior surfaces shall be cleaned to provide a surface free from mill scale, oil, grease, dirt, and rust in accordance with the contractor's standard practice. The cleaned and dried surfaces shall be painted with not less than one coat of anticorrosive primer and two coats of synthetic enamel. If an airless paint spray process is used, only one finish coat is required. The primer and finish coats

shall be applied in accordance with normal commercial practices to assure complete coverage and durability of the finish. The finish color shall conform to FED. STD. No. 595, Color No. 13538. The finish coat, when dry, shall have a smooth, even surface, free from runs, sags, peels, chips, blisters and areas of thin film or no film. Surfaces of components and assemblies not normally painted with a finish coat, shall be cleaned and prepared in accordance with standard commercial practice.

3.10 Workmanship.

3.10.1 Castings and forgings. All parts, components, and assemblies of the trailer which include castings and forgings shall be clean of harmful extraneous material such as sand, dirt, sprues, scale, and flux. Rework shall be limited to procedures which do not reduce mechanical properties or affect function. Castings with fastener holes shall provide for correct seating of fasteners such as boat, lockwasher and nut assemblies and cap-screws.

3.10.2 Metal fabrication. Metal used in fabrication shall be free from kinks and sharp bends. The straightening of material shall be done by methods that will not cause injury to the material. Corners shall be square and true. Flame cutting, using tips suitable for the thickness of the steel may be employed instead of shearing and sawing. All bends shall be made with controlled means to insure uniformity of size and shape. Precaution shall be taken to avoid overheating. Heated steel shall be allowed to cool slowly, except in performance of designed heat treatment. External surfaces shall be free of burrs, sharp edges and corners, except when sharp edges or corners are required or where they are not detrimental to safety.

3.10.3 Welding. The surfaces of parts to be welded shall be free from rust, scale, paint, grease, mill scale that can be removed by chipping and wire brushing, and other foreign matter. Welds shall transmit stress without permanent deformation or failure when the parts connected by the welds are subjected to proof and service loading. Parent materials, weld filler metals, and fabrication techniques shall be as required to enable the trailer to conform to the examination and test requirements specified in Section 4. Parts to be joined by filler welds shall be brought into as close contact as possible and in no event shall be separated by more than 3/16 inch unless appropriate bridging techniques are used. The welding process used in fabrication of the trailers shall be at the option of the contractor.

3.10.4 Bolted connections. Boltholes shall be accurately formed and shall have the burrs removed. Washers, lockwashers, or other positive locking devices shall be provided where necessary. Matching thread areas

securing bolts conforming to SAE J429 or capscrews shall be of sufficient strength to withstand the tensile strength of the bolt. All fasteners shall be correctly torqued and shall have full thread engagement.

3.10.5 Riveted connections. Rivets shall fill the holes completely. The upset rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member, and shall be in accordance with SAE J492 or Industrial Fastener Institute Standard No. 114 for Break Mandrel Blind Rivets.

3.10.6 Machine work. Tolerances and gages for metal fits shall conform to the limits specified herein, and to the standards of the Materials Handling Equipment Industry.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Acceptability criteria. Trailers which conform to all requirements in Sections 3 and 5 of this specification and pass all applicable examinations and tests in Section 4 of this specification will be considered acceptable by the Government.

4.1.2 Component and material inspection. The contractor is responsible for insuring that components and materials used are manufactured, examined, and tested in accordance with referenced specification, standards, and as specified herein.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

(a) In-process inspection (see 4.3).
(b) Preproduction inspection (see 4.4).
(c) Quality conformance inspection (see 4.5).
(d) Inspection of packaging (see 4.7).

4.3 In-process inspection.

4.3.1 Moisture content, wood. At the time of fabrication of wood platform each lot of lumber shall be tested for moisture content using the electric moisture meter method specified in MIL-STD-1363. A lot shall consist of lumber of one species that is to be used in fabrication of the wood platform(s). The sample unit shall be one piece of lumber. One sample unit shall be taken from each lot. Three determinations shall be made on each sample unit. The moisture content shall be the average of the three determinations. Nonconformance to 3.3.1.1 shall be cause for rejection of the lot from which the sample unit was taken.

4.4 Preproduction inspection.

4.4.1 Examination. The preproduction trailers shall be examined as specified in 4.6.1. Presence of one or more defects shall be cause for rejection.

4.4.2 Tests. The preproduction trailers shall be tested as specified in 4.6.2.1 through 4.6.2.6. Failure of any test shall be cause for rejection.

4.5 Quality conformance inspection.

4.5.1 Sampling. Sampling for examination and tests shall be in accordance with MIL-STD-105, Inspection Level II.

4.5.2 Examination. Samples selected in accordance with 4.5.1 shall be examined as specified in 4.6.1. AQL shall be 2.5 percent defective for major defects and 4.0 percent defective for minor defects.

4.5.3 Tests. Samples selected in accordance with 4.5.1 shall be tested as specified in 4.6.2.1 through 4.6.2.3. AQL shall be 4.0 percent defective for all tests.

4.6 Inspection procedure.

4.6.1 Examination. Samples shall be examined for defects of the characteristics listed in Table II.

Table II. Examination Schedule

Number	Characteristic	Requirement Paragraph
Major		
101	The warehouse platform trailer not as described.	3.1
102	Material not as specified.	3.3
103	Lumber not of the specie that is specified.	3.3.1
104	Moisture content of the lumber not as specified.	3.3.1.1
105	Quality of the lumber not as specified.	3.3.1.2
106	Physical characteristics of the trailers as listed in Table I not as specified.	3.4
107	Frame not as specified.	3.4.1
108	Platform (Class A) not as specified.	3.4.2.1
109	Platform (Class B) not as specified.	3.4.2.2
110	Fifth wheel not as specified.	3.4.3
111	Running gear not as specified.	3.4.4
112	Wheels and hubs not as specified.	3.4.5.1
113	Axles not as specified.	3.4.5.2
114	Tires and tubes not as specified.	3.4.5.3
115	Fastening devices not as specified.	3.4.6
116	Threads not as specified.	3.4.6.1
117	Type I couplers not as specified.	3.4.7.1

Table II. Examination Schedule (Cont'd)

Number	Characteristic	Requirement Paragraph
118	Type I mounting, front coupler not as specified.	3.4.7.1.1
119	Type I mounting, rear coupler not as specified.	3.4.7.1.2
120	Type II racks (Class A) not as specified.	3.4.8.1
121	Type II rack (Class B) not as specified.	3.4.8.1.1
122	Type II fork lift pockets not as specified.	3.4.8.2
123	Type II pintle hook not as specified.	3.4.8.3
124	Type II drawbar not as specified.	3.4.8.4
125	Lubrication not as specified.	3.7
126	Lubricants not as specified.	3.7.1
127	Castings and forgings not as specified.	3.10.1
128	Metal fabrication not as specified.	3.10.2
129	Welding not as specified.	3.10.3
130	Bolted connections not as specified.	3.10.4
131	Riveted connections not as specified.	3.10.5
132	Machine work not as specified.	3.10.6
Minor		
201	Reflectors not as specified.	3.4.4.1
202	Identification marking not as specified.	3.8
203	Treatment and painting not as specified.	3.9

4.6.2 Tests.

4.6.2.1 Static load - couplers. The trailer with rated load shall be weighed. The trailer shall then be made immovable by blocking the wheels. A static force equal to 1/5 times the weight recorded above shall then be applied at each coupler in the forward and reverse directions for a period of 1 minute in each direction. The force at the coupler shall be applied in a horizontal plane. Nonconformance to 3.4.7.1 shall constitute failure of this test.

4.6.2.2 Wheel loads. The trailer shall be loaded with a rated load evenly distributed over the trailer platform, and the loads on the front and rear wheels shall be recorded. Nonconformance to 3.4.4 shall constitute failure of this test.

4.6.2.3 Rolling resistance. The trailer with rated load shall be weighed. The trailer shall then be placed on a dry, smooth, level concrete floor of sufficient unobstructed length to perform the following test. The static coefficient of friction between the concrete surface and the tires shall be not less than 0.5. The trailer shall be coupled through a tension dynamometer to an industrial type tractor of sufficient capacity. The tractor shall accelerate the trailer to a speed of 10 miles per hour and maintain this speed for a minimum of 100 feet. The maximum gage reading of the dynamometer during this 100-foot interval shall be recorded. Nonconformance to 3.5.3 shall constitute failure of this test.

4.6.2.4 Overload. The trailer shall be placed on a concrete floor or roadway. The trailer shall be uniformly loaded with a load equal to 200 percent of rated load. Determine whether wheels clear the trailer structure in accordance with 3.4.4. The trailer shall be left under the load for a period of 1 hour. After the 1-hour period has elapsed, the load shall be removed and the trailer examined. Nonconformance to 3.4.4 or 3.5.1 shall constitute failure of these tests.

4.6.2.5 Operational ability. Three trailers shall be loaded with a uniform rated load and shall be towed at an average speed or 3 mph for 500 cycles along a rectangular shaped test course 1/10 mile long, laid out on a dry, smooth, level concrete floor. The course aisles shall be not more than 9 feet wide except as noted in (a) below, and all corners shall be 90 degrees. The aisle shall be bounded or controlled by fencing such that no portion of the train may leave the 9-foot or 10-foot aisles as applicable. The course shall be laid out such that the train must negotiate the following tests during each lap:

(a) Make a turn from a 9-foot wide aisle into a 10-foot wide aisle and make a turn from a 10-foot wide aisle into a 9-foot wide aisle.
(b) Climb an inclined ramp of 15 percent slope from the level test course. The ramp shall be at least 15 feet long.
(c) Descend an inclined ramp of 15 percent slope from a level platform to the level test course. The ramp shall be at least 15 feet long.
(d) Cross an obstacle course without stopping consisting of eight pieces of 2 by 4 nominal size timber, 48 inches long and beveled at a 45-degree angle, laid out in the following pattern: The timber shall be set four on each side of the centerline of the course aisle, with their longitudinal axis at right angles to the center of the course aisle. The beveled edge shall be set down such that the trailer wheels ride up the beveled edge and fall off the straight edge. The distance between the longitudinal axis of successive timbers on the same side of the aisle shall be 60 inches. Distance between the longitudinal axis of the successive timbers on opposite sides of the aisle shall be 30 inches. This layout and arrangement will allow one wheel at a time of each trailer under test to be elevated above grade level. This portion of the course shall be traversed at not less than 3 mph. At the end of each 20 laps travelled, the trailer shall come to a complete stop and be restarted. The arrangement of the test course may be varied to fit local conditions, so long as the general configuration, positions, and the dimensions of the obstacles, length and slopes of ramps, and overall length are adhered to. During and after the test, the trailer shall be examined. Nonconformance to 3.5.4 shall constitute failure of this test.

4.6.2.6 High speed. Three trailers shall each be loaded with uniform rated loads and shall be towed at a speed of not less than 15 mph for 1000 feet over a prepared surface. The performance of the train and the individual trailers shall be examined. Nonconformance to the applicable provisions of 3.5.2.2 shall constitute failure of this test.

4.7 Inspection of packaging.

4.7.1 Quality conformance inspection of pack.

4.7.1.1 Unit of product. For the purpose of inspection, a completed pack prepared for shipment shall be considered a unit of product.

4.7.1.2 Sampling. Sampling for examination shall be in accordance with MIL-STD-105, Inspection Level II.

4.7.1.3 Examination. Samples selected in accordance with 4.7.1.2 shall be examined for defects of the characteristics listed in Table III. AQL shall be 2.5 percent defective for major defects and 4.0 percent defective for minor defects.

Table III. Examination Schedule

Defect	Characteristics	Requirement Paragraph
Major 133	Preservation not Level A or Commercial as specified (see 6.2).	5.1
134	Unprotected surfaces not preserved for Level A as specified.	5.1.1.1
135	Tires not inflated for Level A as specified.	5.1.1.2
136	Data items not preserved for Level A as specified.	5.1.1.3
137	Preservation for Commercial not as specified.	5.1.2
138	Packing not Level A or Commercial as specified (see 6.2).	5.2
139	Packing for Type I trailers not in accordance with Level A requirements.	5.2.1.1
140	Packing for Type II trailers not in accordance with Level A requirements.	5.2.1.2
141	Packing for Commercial not as specified.	5.2.2
Minor 204	Repair parts not preserved for Level A as specified.	5.1.1.4
205	Maintenance tools not preserved for Level A as specified.	5.1.1.5

Table III. Examination Schedule (Cont'd)

Number	Characteristics	Requirement Paragraph
206	Consolidation preservation for Level A not as specified.	5.1.1.6
207	Marking for military levels of packaging not as specified.	5.3.1
208	Marking for Commercial level of packaging not as specified.	5.3.2

5. PACKAGING

5.1 Preservation. Preservation shall be Level A or Commercial as specified (see 6.2).

5.1.1 Level A.

5.1.1.1 Unprotected surfaces. Unpainted exterior metal surfaces of components requiring the application of a contact preservative in accordance with MIL-P-116 shall be coated with Type P-1 preservative. The preservative shall conform to the applicable specification listed in and shall be applied in accordance with MIL-P-116.

5.1.1.2 Tires. Tires shall be inflated to 10 pounds above the pressure recommended for maximum load.

5.1.1.3 Data items. The data items shall be preserved in accordance with MIL-P-116, Method IC-1 or IC-3 and secured to the trailer in a conspicuous location.

5.1.1.4 Repair parts. The preservative application criteria and applicable methods of preservation of MIL-P-116 shall be used to preserve the repair parts.

5.1.1.5 Maintenance tools. Maintenance tools shall be preserved in accordance with PPP-P-40, Level A.

5.1.1.6 Consolidation. The preserved repair parts and maintenance tools for each trailer shall be consolidated in a close-fitting box conforming to PPP-B-601, Overseas Type, style optional. The box shall be secured to the packed trailer.

5.1.2 Commercial. The trailers, with data items, repair parts and maintenance tools, shall be preserved to afford protection against corrosion, deterioration, and damage from the contractor to the initial destination.

5.2 Packing. Packing shall be Level A or Commercial as specified (see 6.2).

5.2.1 Level A.

5.2.1.1 Type I. Two trailers, preserved as specified in 5.1, shall be packed together by placing them platform to platform. The two trailers shall be strapped with three metal straps 1-1/4 inches wide by 0.035 inch thick conforming to Type I or IV, heavy duty, Class B of QQ-S-781. Two straps shall be positioned, one at each end, approximately 1/6 the distance from each end. The third strap shall be positioned lengthwise so that it passes on one side of the coupler loop assembly on one end of the trailers and diagonally across the trailers to pass on the opposite side of the coupler jaw assembly on the other end. The fifth wheel assembly of the inverted trailer shall be rotated 180 degrees from the normal operation position, and the coupler loop shall be secured to the underside of the trailer with minimum 1/8-inch diameter annealed wire.

5.2.1.2 Type II. Two trailers, preserved as specified in 5.1, shall be packed together as specified in 5.2.1.1 with the following additional requirements. The racks for the two trailers shall be banded together to form a compact bundle using strapping conforming to QQ-S-781, Type I or IV, light duty, Class B, size 3/4 inch. Wood blocking between the rack sections or under the strapping shall be required as needed to prevent movement or damage. The bundle shall then be packed in a close-fitting crate conforming to PPP-C-650, Type II, Style A. If practical, the crate shall be secured to the axles of the inverted trailer with strapping as specified in 5.2.1.1 or, if impracticable, the crate shall be shipped separate from but at the same time as the trailers.

5.2.2 Commercial. Trailers, preserved as specified in 5.1, shall be prepared for shipment in a manner to assure carrier acceptance and safe delivery to destination at lowest ratings in compliance with Uniform Freight Classification rules or National Motor Freight Classification rules.

5.3 Marking.

5.3.1 Military packaging. Marking shall be in accordance with MIL-STD-129.

5.3.2 Commercial packaging. Commercial packaging marking shall reflect as a minimum, the item name, National Stock Number, quantity, contract or purchase order number and appropriate address markings. The marking shall be applied with a waterproof material, be legible and shall provide a definate contrast.

6. NOTES

6.1 Intended use. The trailer covered by this specification is intended for general cargo handling in warehouse and between warehouses across prepared surfaces. The trailer is also provided with automatic couplers, drawbars, and pintle hook for assembly into trains and towed by industrial tractors.

6.2 Ordering data. Procurement documents should specify the following:

(a) Title, number, and date of this specification.
(b) Type and class required (see 1.2).
(c) Time frame required for submission of preproduction model (see 3.2.1).
(d) When the Government will conduct any or all of the preproduction model examination and tests. When the Government will conduct some but not all of the preproduction examination and tests, the contracting officer should specify which examination and tests will be conducted by the Government and which examination and tests shall be conducted by the contractor (see 3.2.1).
(e) When forklift pockets are not required (see 3.4.8.2).
(f) Degree of preservation and degree of packing required (see 5.1 and 5.2).

6.3 Preproduction model. Any changes or deviations of production trailers from the approved preproduction model during production will be subject to the approval of the contracting officer. Approval of the preproduction model will not relieve the contractor of his obligation to furnish trailers conforming to this specification.

6.4 Lubricants. The contracting officer should furnish a list of military lubricants applicable to the trailer covered by this specification as contained in the Federal Supply Catalog, Department of Defense Section, Identification List C9100-IL for FSC Group 91.

6.5 Data requirements. The contracting officer should include requirements for such data as technical publications, instructional materials, illustrated parts lists, and contractor's maintenance and operation manual to be furnished with each trailer.

6.6 Provisioning. The contracting officer should include provisioning requirements for repair parts and maintenance tools as necessary (including any special tools) and instructions on shipment of trailers. A suggested paragraph is as follows:

> "Shipment of trailers shall include repair parts, maintenance tools, operational instructions, and accessories, unless exceptions are provided elsewhere in the contract."

6.7 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of the specification (see 3.3).

Custodians:
Army - ME
Navy - SA
Air Force - 99

Review activities:
Army - SM
DLA - GS

User activity:
Navy - MC

Preparing activity:
Army - ME

Project 3920-0134

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1. DOCUMENT NUMBER	2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR
b. ADDRESS *(Street, City, State, ZIP Code)*	☐ USER
	☐ MANUFACTURER
	☐ OTHER *(Specify)*:

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

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